

## Features

- Low output ripple
- 10 amp output current
- 92 % efficiency
- Low 0.5 ~ profile
- Power good
- Remote sense
- Adjustable Vout
- Short-circuit protection with auto-restart
- Fast transient response
- High-temperature operation
- Remote enable
- Output precharge capability

## SLN10A-5SA Series – Power Module

### General Information

The SLN10A adds a new meaning to low cost DC-DC converters. This non-isolated SIP uses a 5 V input to provide 10 Amps of output current at voltages ranging from 0.8 V to 2.5 V. The SLN10A output is adjustable by the user to provide any voltage within its range. Its extra low 0.8 V output will power even the latest in ASICs, microprocessors, and DSPs.

The SLN10A has an industry standard pin-out, is 2 inches long, and only 0.5 inches high. Its total footprint is a space saving 0.75 in<sup>2</sup>. Features include Enable/Disable, output voltage trim, remote sense, short circuit protection with auto-restart, fast transient response, and high temperature operation. The SLN10A is one of the most cost-effective DC-DC converters available.

### Input Specifications

Voltage .....4.5 VDC Min.  
   5 VDC Nom.  
   5.5 VDC Max.  
 Current .....10 A Nom.  
 Remote Enable  
 High = Disable .....2.4 VDC Min.  
 Low = Enable  
   .....0.4 VDC max. (open = enable)  
 Enable/Disable Current .....250 µA Nom.

### Output Specifications

Current .....0 to 10 A  
 Current Limit .....11 to 18 A  
 Voltage Setpoint Accuracy  
     .....±1 %Vnom (nominal)  
   ±2 %Vnom (max.)  
   optional .....±0.5 %Vnom (nominal)  
   ±1 %Vnom (max.)  
 Line Regulation .....±0.1 %Vnom  
 Load Regulation .....±0.2 % Vnom  
 Ripple .....20 mV pp  
 Dynamic Response  
   50 to 100 % load .....40 mV Nom.  
   20 µs Nom.  
   100 to 50 % load .....40 mV Nom.  
   20 µs Nom.  
 Temperature Regulation  
     .....±0.02 %Vout/°C Max.

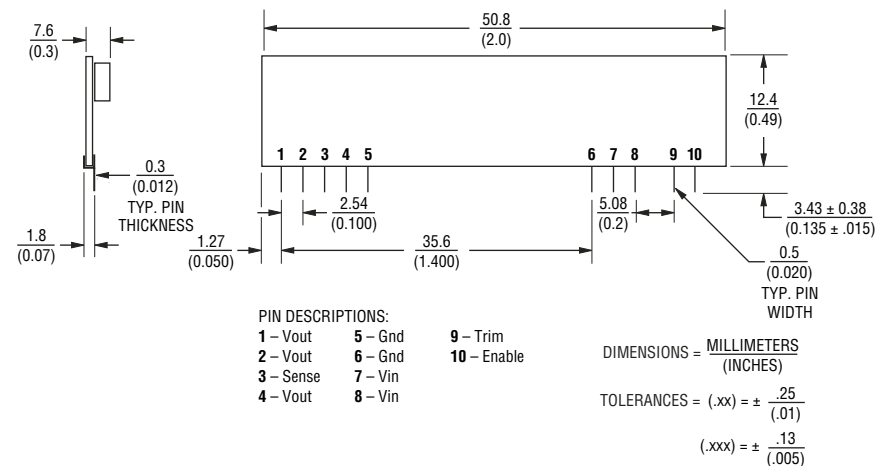
### General Specifications

MBTF .....2,000 kHrs Nom.  
   (80 % load, 25 °C)  
 Operating Temperature.....-40 to +100 °C  
 Storage Temperature.....-55 to +125 °C  
 Switching Frequency.....300 kHz Nom.

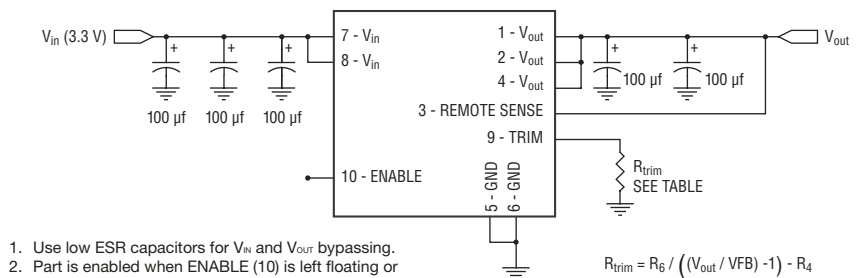
### Standard Options

	Nominal Input (V)	Input Voltage (V)	Output Voltage (V)	Output Current (A)	Ripple Max. (mV pp)	Efficiency Typ. (%)
SLN10A-5SA	5	4.5 to 5.5	0.8 to 3.5	10	40	90

### Product Dimensions



### Product Schematic



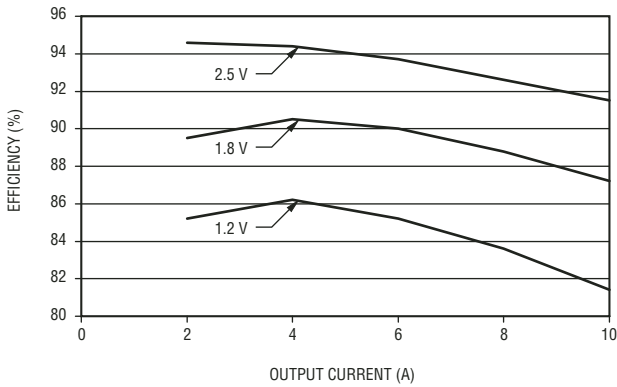
1. Use low ESR capacitors for  $V_{in}$  and  $V_{out}$  bypassing.
2. Part is enabled when ENABLE (10) is left floating or grounded.
3. Apply 2.4 to 5 VDC to ENABLE (10) to disable (shut down) the part.
4. Use the table above to determine an  $R_{TRIM}$  resistor for the desired voltage.
5. To get an intermediate voltage between 0.800 V and 3.500 V, use the equation at right.

$$R_{trim} = R_6 / \left( \frac{V_{out}}{VFB} - 1 \right) - R_4$$

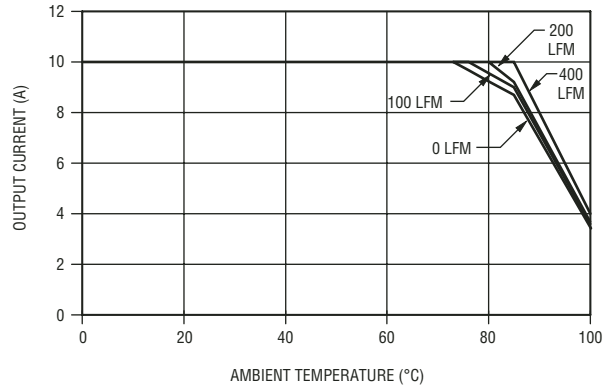
WHERE  $R_4 = 23.7K$  Ohms  
 $R_6 = 80.6K$  Ohms  
 $VFB = 0.800$  VDC

$V_{OUT}$	$R_{TRIM}$ (kΩ)
3.5	0.182
3.0	5.62
2.5	14.3
2.0	30.1
1.5	68.1
1.0	301
0.8	open

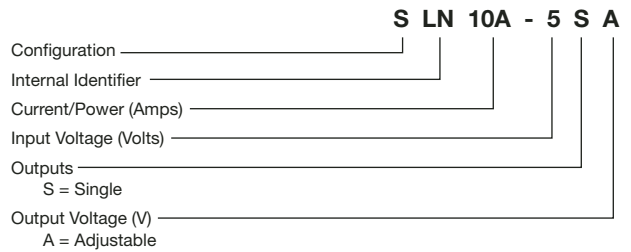
**Efficiency Curve**



**Temperature Derating**



**How to Order**



*Reliable Electronic Solutions*

**Asia-Pacific:** TEL +886- (0)2 25624117 • FAX +886- (0)2 25624116

**Europe:** TEL +41-41 768 5555 • FAX +41-41 768 5510

**The Americas:** TEL +1-951 781-5500 • FAX +1-951 781-5700

[www.bourns.com](http://www.bourns.com)